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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/669,648	09/25/2003	Prasad Golla	Q77710	7770
23373	7590	11/26/2007	EXAMINER	
SUGHRUE MION, PLLC			WONG, XAVIER S	
2100 PENNSYLVANIA AVENUE, N.W.			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20037			2616	
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			11/26/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/669,648

Applicant(s)

GOLLA ET AL.

Examiner

Xavier Szewai Wong

Art Unit

2616

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 31<sup>st</sup> August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31<sup>st</sup> August 2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

- Applicant's Amendment filed 31<sup>st</sup> August 2007 is acknowledged
- Claims 1-9 have been amended
- Claims 1-9 are still pending in the present application
- This action is made FINAL

### ***Drawings***

1. The replacement drawings were received on 31<sup>st</sup> August 2007. These drawings are acknowledged.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that

the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims **1**, **4**, **8** and **9** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Blanquer Gonzalez et al (U.S. Pub 2003/0223428 A1)**, hereinafter **Blanquer**, in view of **Nemirovsky et al (U.S. Pub 2002/0062435 A1)**.

Consider claims **1** and **9**, **Blanquer** disclose a system for packet scheduling in a source node shown in figure 1 that comprises a plurality of flows<sub>1-M</sub> (queues) to a plurality of server output ports 120-1-N (hereby also considered as a plurality of destinations nodes) in which **Blanquer** mention each server is independent from the scheduler 110 (paragraph 0030). Nonetheless, **Blanquer** did not specifically mention that servers are associated with a respective one of the resources among a plurality of resources. In a related field of endeavor, **Nemirovsky et al** show and disclose that a single (output) queue in a processor/server is dedicated to one (or a set) of resources (paragraphs 0036 & 0040; fig. 1). Therefore, it would have been obvious for a person of ordinary skills in the art at the time when the invention was made to incorporate the teachings of a (server) output being associated with one of a respective resource as taught

by **Nemirovsky et al**, in the device of **Blanquer**, in order to allocate eligible instructions to their dedicated functional resources.

Consider claim **4**, **Blanquer**, as modified by **Nemirovsky et al**, further disclose scheduling means comprising weighted fair queuing or WFR (paragraph 0007; *abstract*).

Consider claim **8**, as applied to claim **1**, **Blanquer**, as modified by **Nemirovsky et al**, disclose a system for packet scheduling in a source node shown in figure 1 that comprises a plurality of flows<sub>1~M</sub> (queues) to a plurality of server output ports *120-1~N* (hereby also considered as a plurality of destinations nodes).

4. Claims **2** and **6** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Blanquer Gonzalez et al** (U.S. Pub 2003/0223428 A1), hereinafter **Blanquer**, in view of **Nemirovsky et al** (U.S. Pub 2002/0062435 A1), as applied to claims **1** and **5**, and in further view of **Biroux et al** ("*Quality of Service in ATM Networks: State-of-the-Art Traffic Management*").

Consider claim **2**, and as applied to claim **1**, **Blanquer**, as modified by **Nemirovsky et al**, disclose the claimed invention except explicitly mentioning a plurality of stages corresponding respectively to a plurality of scheduling schemes using different criteria. In a related field of endeavor, **Biroux et al** disclose three levels of hierarchical arbitration that can be used in priority-based, fair-share, and traffic shaping scheduling schemes (pg. 97 lines 1-18; fig. 5.8). Therefore, it would have been obvious for a person of ordinary skills in the art at

the time when the invention was made to incorporate the teachings of a plurality of stages corresponding respectively to a plurality of scheduling schemes as taught by **Biroux et al**, in the device of **Blanquer**, as modified by **Nemirovsky et al**, in order to achieve specific bandwidth partitioning and control.

Consider claim 6, and as applied to claims 1, **Blanquer**, as modified by **Nemirovsky et al**, disclose the claimed invention except specifically showing the first and second sets of weights, in which each weight represent a relative weight of the traffic of each node; and as a percentage of resource allocated to each node – relative of the total traffic of the plurality of nodes. In a related field of endeavor, **Biroux et al** disclose the concept of the weighted round-robin method that calculates relative allocation (ratio) using each connection's weight ( $w_i$ ), the link capacity of the system, as well as the total (all) weights  $\sum W_i$  where  $i$  can be from 1 to the total (N) number of cell slots (as resources/traffic of nodes) available (pg. 100 lines 22-33, pg. 105 lines 1-14). The ratio can be changed into a percentage by multiplying it by 100%. Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to incorporate the teachings of each weight represent a relative weight of the traffic of each node; and as a percentage of resource allocated to each node – relative of the total traffic of the plurality of nodes as taught by **Biroux et al**, in the device of **Blanquer**, as modified by **Nemirovsky et al**, in order to assign resources to each connection fairly.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable by **Blanquer Gonzalez et al (U.S Pub 2003/0223428 A1)**, hereinafter **Blanquer**, in view of **Nemirovsky et al (U.S Pub 2002/0062435 A1)**, as applied to claim 1, and in further view of **Fan et al (U.S Pat 6,389,019)**.

Consider claim 3, and as applied to claim 1, **Blanquer**, as modified by **Nemirovsky et al**, disclose the claimed invention except a cyclical round-robin scheduling means. In the same field of endeavor, **Fan et al** teach queues are visited in a cyclic order in a round-robin scheduling scheme (col. 1 lines 37-39). Therefore, it would have been obvious for a person of ordinary skills in the art at the time when the invention was made to incorporate the teachings of a cyclical round-robin scheduling means as taught by **Fan et al**, in the device of **Blanquer**, as modified by **Nemirovsky et al**, in order to avoid processes from being denied of necessary resources.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable by **Blanquer Gonzalez et al (U.S Pub 2003/0223428 A1)**, hereinafter **Blanquer**, in view of **Nemirovsky et al (U.S Pub 2002/0062435 A1)**, as applied to claim 1, and in further view of **Fan et al (U.S Pat 6,408,005)**.

Consider claim 5, and as applied to claim 1, **Blanquer**, as modified by **Nemirovsky et al**, disclose the claimed invention except specifically mention the scheduling means are dependent on a set of static and/or dynamic weights. In the same field of endeavor, **Fan et al** teach static and/or dynamic scheduling methods dependent on weights (col. 8 lines 63-67, col. 9 lines 1-9). Therefore, it

would have been obvious for a person of ordinary skills in the art at the time when the invention was made to incorporate the teachings of the scheduling means are dependent on a set of static and/or dynamic weights as taught by **Fan et al**, in the device of **Blanquer**, as modified by **Nemirovsky et al**, in order to allow flexible distribution of bandwidth.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable by **Blanquer Gonzalez et al (U.S Pub 2003/0223428 A1)**, hereinafter **Blanquer**, in view of **Nemirovsky et al (U.S Pub 2002/0062435 A1)** and **Fan et al (U.S Pat 6,408,005)**, and as applied to claim 5, and in further view of **Biroux et al ("Quality of Service in ATM Networks: State-of-the-Art Traffic Management")**.

Consider claim 7, and as applied to claim 5, is rejected in the same grounds as claim 6.

### ***Response to Arguments***

8. Applicant's arguments filed 31<sup>st</sup> August 2007 have been fully considered but they are not persuasive.

The applicant argues in claim 1 that **Blanquer** did not disclose "a scheduler module which is independent for each of a plurality of servers." The examiner asserts that it would have been obvious to one of ordinary skill in the art at the time the invention was made to tell that **Blanquer's** scheduler provides similar functionality as **Blanquer's** scheduler schedules the flows separately (paragraph 0030), as if each server has its independent scheduler, as the



scheduler proportionally share resources among the servers as further clarified and depicted in figure 9 and explained in paragraph 0075.

The applicant also argues in claim 1 that **Nemirovsky et al** did not disclose "the outlet ports via which data is transmitted from a source node to a destination node." The examiner asserts that **Nemirovsky et al's** processor 14 in figure 1 is obvious to be applied as a server in transmitting data from a source node / or a source (e.g. threads 1-3 enters processor) to a "destination and output (combined)," which are the resources 10-13. The concept of transmitting and scheduling data from one end to another end is obviously disclosed, and therefore, reads on as "source to destination."

### ***Conclusion***

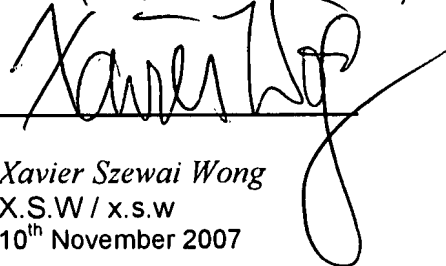
9. This action is made Final. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

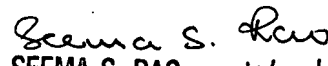
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Xavier Wong whose telephone number is 571-270-1780. The examiner can normally be reached on Monday through Friday 8:30 am - 6:00 pm (EST).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Seema Rao can be reached on 571-272-3174. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
Xavier Szewai Wong  
X.S.W / x.s.w  
10<sup>th</sup> November 2007

  
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